

Title (en)

ELECTRO-MAGNETIC COUPLED PIEZOELECTRIC POWERING OF ELECTRIC VEHICLES

Title (de)

ELEKTROMAGNETISCHER GEKOPPELTER PIEZOELEKTRISCHER ANTRIEB VON ELEKTROFAHRZEUGEN

Title (fr)

ALIMENTATION PIÉZOÉLECTRIQUE COUPLÉE ÉLECTRO-MAGNÉTIQUE DE VÉHICULES ÉLECTRIQUES

Publication

EP 4013635 A1 20220622 (EN)

Application

EP 20768140 A 20200814

Priority

- US 201962886994 P 20190815
- US 2020046535 W 20200814

Abstract (en)

[origin: US2021046788A1] A device is disclosed, which includes: a charge portion with a plurality of piezoelectric elements embedded in a tire configured for a vehicle, a capacitor mechanically coupled to the tire and electrically coupled to the plurality of piezoelectric elements; a transmitter coil, mechanically coupled to the tire and electrically coupled to the capacitor through a discharge portion; wherein in response to an external radial pressure on the tire resulting from movement of the vehicle which causes a pressure on the plurality of piezoelectric elements, the plurality of piezoelectric elements produce an electrical charge on the capacitor, and wherein the discharge portion electrically connects the electrical charge on the capacitor to the transmitter coil to send electromagnetic power to the vehicle.

IPC 8 full level

B60L 1/00 (2006.01); **B60C 23/04** (2006.01)

CPC (source: CN EP KR US)

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Citation (search report)

See references of WO 2021030760A1

Designated contracting state (EPC)

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Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

US 11117427 B2 20210914; **US 2021046788 A1 20210218**; CN 114223128 A 20220322; EP 4013635 A1 20220622; JP 2022545383 A 20221027; KR 20220047613 A 20220418; US 11618286 B2 20230404; US 2021331532 A1 20211028; US 2023219382 A1 20230713; WO 2021030760 A1 20210218

DOCDB simple family (application)

US 202016993527 A 20200814; CN 202080057644 A 20200814; EP 20768140 A 20200814; JP 2022509160 A 20200814; KR 20227008525 A 20200814; US 2020046535 W 20200814; US 202117366157 A 20210702; US 202318180342 A 20230308